

Specifications			
<b>General</b>		<b>Receiver</b>	
Rx Frequency Range:	30 kHz - 56 MHz (operating) 160 - 6 m (specified performance, Amateur bands only)	Circuit Type:	Double-conversion superheterodyne
Tx Frequency Ranges:	160 - 6 m (Amateur bands only)	Intermediate Frequencies:	1st IF 67.899 MHz / 2nd IF 24 kHz
Frequency Stability:	±1 ppm/hour (@77° F / +25° C, after warmup)	Sensitivity (IPO "OFF", ATT: OFF):	SSB (2.4 kHz, 10 dB S+N/N)
Operating Temperature Range:	14° F ~ 122° F (-10° C ~ +50° C)		0.25 µV (1.8 - 2.0 MHz)
Emission Modes:	A1A (CW), A3E (AM), J3E (LSB, USB), F3E (FM)		0.25 µV (3.5 - 30 MHz)
Frequency Steps:	10 Hz (SSB & CW), 100 Hz (AM & FM)		0.20 µV (50 - 54 MHz)
Antenna Impedance:	50 Ohms, unbalanced	AM (6 kHz, 10 dB S+N/N)	30 % modulation @400 Hz)
Power Consumption:	RX (signal present) 1.5 A TX (100 W) 22 A		2.00 µV (1.8 - 2.0 MHz)
Supply Voltage:	DC 13.8 V ± 10%	FM (BW: 15 kHz, 12 dB SINAD)	2.00 µV (3.5 - 30 MHz)
Dimensions (WxHxD):	9" x 3.3" x 8.5" (229 x 84 x 217 mm)		1.00 µV (50 - 54 MHz)
Weight (approx.):	7.9 lb (3.6 kg) w/o ATU-450		0.50 µV (28 - 30 MHz)
			0.30 µV (50 - 54 MHz)
		There is no specification in frequency ranges not listed.	
		Squelch Sensitivity:	SSB/CW/AM
		(IPO "OFF", ATT: OFF)	2.50 µV (1.8 - 30 MHz)
			1.00 µV (50 - 54 MHz)
		FM	0.32 µV (28 - 30 MHz)
			0.16 µV (50 - 54 MHz)
		There is no specification in frequency ranges not listed.	
		Selectivity (-6/-60 dB):	Mode -6 dB -60 dB
			CW 0.5 kHz or better 2.0 kHz or less
			SSB 2.2 kHz or better 4.5 kHz or less
			AM 6 kHz or better 20 kHz or less
			FM 15 kHz or better 30 kHz or less
			FM-N 9 kHz or better 25 kHz or less
		Image Rejection:	80 dB or better (160 - 10m Amateur bands)
			65 dB or better (8m Amateur band)
		Maximum Audio Output:	2.2 W into 4 Ohms with 10% THD
		Audio Output Impedance:	4 to 16 Ohms (8 Ohms: nominal)
		Conducted Radiation:	Less than 4000 µW
		Specifications are subject to change without notice, and are guaranteed within the amateur band only.	
		Frequency range will vary according to transceiver version; check with your dealer.	

Option			
			
<b>MD-200A8X</b> Desk-Top Dynamic Microphone	<b>MD-100A8X</b> Desk-Top Microphone	<b>MH-31A8J</b> Hand Microphone	<b>MH-36E8J</b> DTMF Hand Microphone
			
<b>YH-77STA</b> Open-Air Stereo Headphone	<b>FP-1023 (USA Only)</b> External Power Supply (13.8 VDC 23 A)	<b>FP-1030</b> External Power Supply (13.8 VDC 25 A)	<b>ATU-450</b> Built in Automatic Antenna Tuner (Included in FT-450AT Version)
			
<b>MMB-90</b> Mobile Bracket	<b>MHG-1</b> Side Carry Handle	<b>VL-1000</b> Linear Amplifier 1 kW Power output (6 m: 500 W/USA version) <b>CT-118</b> Band Data Cable	
<b>FC-40</b> Automatic Antenna Tuner (for Long wire antenna) The FC-40 is a microprocessor-controlled antenna impedance matching network designed to provide all-amateur-band transmitting capability with the FT-450 Series of transceivers, when used with an end-fed random wire or long whip antenna. <b>Specifications</b> •Operating Frequency Range: 1.8 - 54 MHz with 66 ft (20+ m) end-fed wire, 7 - 54 MHz with 8 ft (2.5 m) Mobile Whip Antenna •Input Impedance: 50-Ohms •Maximum Power: 100 Watts (3 minutes Maximum Continuous TX) •Matched SWR: 2.0:1 or less (if antenna is not a multiple of λ/2) •Tune-up Power: 4 W - 60 W •Tune-up Time: 8 seconds maximum •Impedance Matching Memories: 200 channels •Power supply: 13.8 V DC ±15% (supplied from transceiver) •Case Size (WHD): 9" x 7" x 2.1" (228 x 175 x 55 mm) •Weight: 2.6 lbs. (1.2 kg)		<b>ATAS-120A</b> Active Tuning Antenna System Yaesu's patented ATAS™ (Active-Tuning Antenna System) provides 7/14/21/28/50 MHz bands coverage with automatic motorized tuning on FT-450. Utilizing control signals from the transceiver's microprocessor received via the coaxial cable, the ATAS internal motor adjusts the radiator length for best SWR. 	
<b>ATBK-100</b> Antenna Base Kit (for Base operation on 6 m Band)			

• Packet Cable **CT-39A** • External Automatic Antenna Tuner **FC-30**  
 About this brochure: we have made this brochure as comprehensive and factual as possible. We reserve the right, however, to make changes at any time to equipment, optional accessories, specifications, model numbers, and availability. Precise frequency range may be different in some countries. Some accessories shown herein may not be available in some countries. Some information may have been updated since the time of printing; please check with your Authorized Yaesu Dealer for complete details.

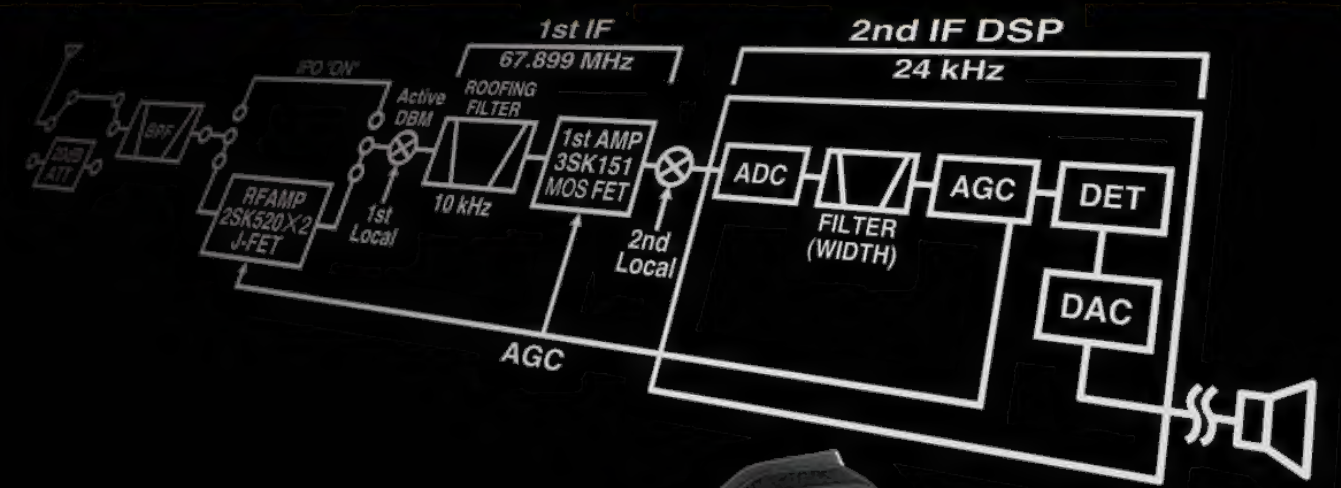
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# HF/50 MHz All Mode Transceiver FT-450

## COMPACT HF/50 MHz TRANSCEIVER WITH IF DSP



**YAESU**  
 Choice of the World's top DX'ers™



# Proven performance and technology of YAESU - state-of-the art IF DSP

## The ultimate compact HF/50 MHz transceiver – YAESU FT-450

HF/50 MHz 100 W All Mode Transceiver

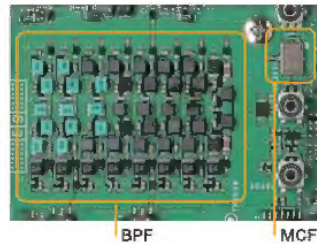
**FT-450** Automatic Antenna Tuner ATU-450 optional

■ **FT-450AT** With Built-in ATU-450 Automatic Antenna Tuner

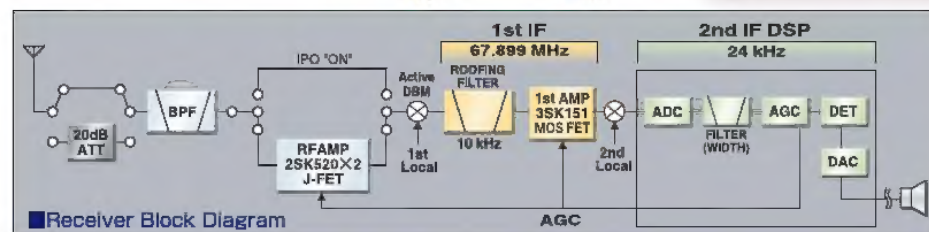
### The Real DX Receiver!

The 67.899 MHz 4 pole roofing filter (MCF) and 8 band-pass filters at the RF state provide excellent suppressions of out-of-band interference.

The interference-filtering begins in the "RF" stages, with a double conversion superhetrodyne (1st IF 67.899 MHz / 2nd IF 24 kHz) system. And the 8 band-pass filters at the RF input that help eliminate out-of-band interference, followed by the RF AMP (2SK520 x 2) to lead into the active DBM (1st local) will promise its excellent dynamic range. At its 1st IF stage, a powerful and excellent shape factor 4 pole roofing filter with a bandwidth of 10 kHz substantially reduces adjacent signal interference. Then, YAESU's high performance DSP at the 2nd IF stage / 24 kHz permits easy management of AGC, interference rejection, audio tone control, and noise reduction, for clear and quiet reception. The 20 dB ATT (Attenuator) and IPO (Intercept Point Optimization) feature allow the operator to optimize the characteristics of the receiver front end to improve its dynamic range.



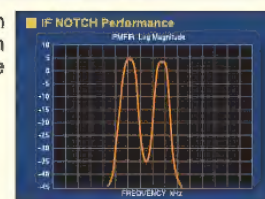
Actual Size / 9" x 3.3" x 8.5" (229 x 84 x 217 mm) (w/o knob)



### MANUAL NOTCH

#### NOTCH

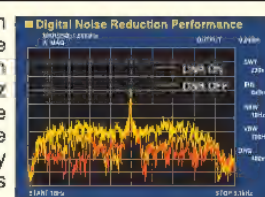
Highly effective system that can remove an interfering beat tone or signal.



### Digital Noise Reduction (DNR)

#### DNR

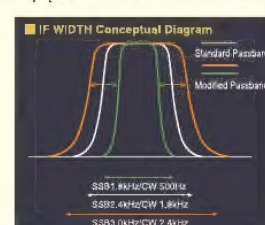
The DNR system analyzes the profile of the noise found on the HF and 50 MHz bands. Random noise is reduced and the sound and readability of the object signal is enhanced.



### IF WIDTH

#### WIDTH

DSP IF WIDTH Tuning provides selectable IF passband widths to fight QRM. (SSB - 1.8 / 2.4 / 3.0 KHz) (CW - 05 / 1.8 / 2.4 KHz)



### World-Class Performance in an easy-to-operate HF/50 MHz transceiver package with Yaesu's unique IF DSP.

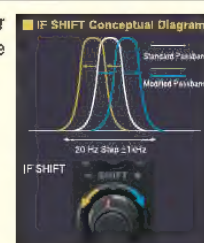
The legendary YAESU IF DSP system, well reputed among top and world class DX operators, is now available in an easy to operate package. The new IF DSP system uses an ADSP-BF531SBST IC, ANALOG DEVICE, with high speed 16-bit floating point architecture. Designed and programmed with unique objective of "Enhanced Transmit Signal Quality" and "Advanced Receiving Interference Suppression". These features now come in one easy to operate HF/50 MHz Transceiver, ideal for everyone, new licensee or serious DX operator.



### Independent Fast IF SHIFT Control

#### SHIFT

Vary the IF SHIFT higher or lower for effective interference elimination.



### Functions for eliminating interference together with IF SHIFT

Choose one of the functions by the DSP button and operate to adjust by the DSP/SEL knob.

### CONTOUR Control Operation

#### CONTOUR

Yaesu's unique CONTOUR filter provides a gentle shaping of the passband. Specific frequency components may be suppressed or enhanced to improve the sound and readability of the received signal with the DSP system.



### Digital Microphone Equalizer

FT-450 has a unique Digital Microphone Equalizer with 10 preset functions. The custom settings match your voice characteristics for maximize power and punch, designed for optimal DX operation.



### DSP VOX Operation

VOX operation is controlled by the DSP system! Enjoy smooth and seamless Voice Operated TX/RX control with this latest technology!

### Two Voice Memories (SSB/AM/FM)

Store up to 10 seconds of audio in each memory, for contesting and portable field operation. The DSP system now makes this feature easy to operate.

### Digital Voice Announcement function

FT-450 Voice Announcement Feature will announce the Frequency, Mode and S-meter readings.

### Outstanding CW Features

- Built-in Electronic Keyer
- Speed adjustable between 4 WPM and 60 WPM
- Weight (Dot:Dash Ratio) adjustable
- CW T/R Recovery Delay programmable from 30 ms to 3000 ms
- CW Beacon - Up to 118 characters using CW message keyer's 3 memory banks
- CW Pitch Adjustment (between 400 to 800 Hz, in 100 Hz steps)
- CW Spotting (Zero-Beating) function
- CW Reverse - provides BFO injection from LSB-side instead of default USB-side
- CW Sidetone Generator
- CW Keying on SSB modes
- CW Keying using Up/Down keys on the optional microphones (MH-31A or MH-36A)
- CW Training feature sends random Morse Code via the built-in sidetone generator

### Operate anywhere using optional internal or external antenna tuning systems! (The ATU-450 Antenna Tuner is included in the FT-450AT)

The FT-450's ATU (Automatic Antenna Tuner) includes 100 memories for quick tuning during field operation when using a folded dipole, etc. YAESU's original and unique Antenna Tuning systems, such as External Automatic Antenna Tuner FC-40 or Active Tuning Antenna System ATAS-120 for mobiles, are ready to be automatically operated with the FT-450 front panel controls.



### Additional features to support the FT-450's operation

- Large, Easy-to-read digital S-meter with peak hold capability
- QMB (Quick Memory Bank)
- Versatile Memory System, up to 500 memory channels that may be separated into as many as 12 Memory Groups
- TXW to monitor the transmit frequency when split frequency operation is engaged
- Clarifier
- Built-in TCXO for incredible  $\pm 1$  ppm/hour (@ +77deg F / 25° C, after warm up)
- 20 second Digital Voice Recorder
- Dedicated Data Jack for DATA operation (FSK RTTY available)
- CTCSS Operation (FM)
- My Band/My Mode functions - to recall your favorite operating environments
- Lock function
- Adjustable Main Tuning Dial Torque
- CS Switch to recall a favorite Menu Selection directly
- TOT (Transmitter Time Out Timer)
- Various Scan functions
- CAT System (D-sub 9 pin) for Computer Programming
- Cloning capability
- Hand microphone MH-67A included

### The Rugged aluminum die-cast chassis with large cooling fan is made for your heavy-duty, long and high power operation.

The newly designed push-pull power MOSFET (RDF100HHF1) amplifiers guarantee powerful and reliable 100 W output operation. The FT-450's rugged 490 cc aluminum die-cast chassis, with a large 2.8" x 2.8" (70 x 70 mm) quiet thermostatically controlled cooling fan, is a solid foundation of the power amplifier during long hours of field use or home contesting operation.

